

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-29263; Directorate Identifier 2007-NM-198-AD; Amendment 39-15210; AD 2007-19-19]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747SR, and 747SP Series Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule; request for comments.

SUMMARY: The FAA is superseding an existing airworthiness directive (AD) that applies to certain Boeing Model 747 series airplanes. The existing AD currently requires repetitive inspections and torque checks of the hanger fittings and strut forward bulkhead of the forward engine mount and adjacent support structure, and corrective actions if necessary. The existing AD also currently requires a terminating action for the repetitive inspections and checks. This new AD requires, among other actions, new repetitive inspections in the existing area and new areas. This new AD also provides for an optional inspection and no longer allows the existing fastener replacement to terminate repetitive inspections. This AD results from new reports of under-torqued or loose fasteners, a cracked bulkhead chord, and a fractured back-up angle after operators accomplished the terminating action required by the existing AD. We are issuing this AD to detect and correct loose fasteners and/or damaged or cracked hanger fittings, back-up angles, and bulkhead of the forward engine mount, which could lead to failure of the hanger fitting and bulkhead and consequent separation of the engine from the airplane.

DATES: This AD becomes effective October 9, 2007.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of October 9, 2007.

On December 6, 2000 (65 FR 69862, November 21, 2000), the Director of the Federal Register approved the incorporation by reference of Boeing Alert Service Bulletin 747-54A2203, dated August 31, 2000.

We must receive any comments on this AD by November 20, 2007.

ADDRESSES: Use one of the following addresses to submit comments on this AD.

- DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.
- Government-wide rulemaking Web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.
- Fax: (202) 493-2251.
- Hand Delivery: Room W12-140 on the ground floor of the West Building, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Tamara Anderson, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6421; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Discussion

On July 13, 2001, we issued AD 2001-15-02, amendment 39-12336 (66 FR 37884, July 20, 2001). That AD applies to certain Boeing Model 747 series airplanes. That AD requires repetitive inspections and torque checks of the hanger fittings and strut forward bulkhead of the forward engine mount and adjacent support structure, and corrective actions if necessary. That AD also requires a terminating action for the repetitive inspections and checks. That AD resulted from reports indicating the detection of loose fasteners of the hanger fittings and strut forward bulkhead of the forward engine mount. The actions specified in that AD are intended to prevent loose fasteners and associated damage to the hanger fittings and bulkhead of the forward engine mount, which could result in separation of the engine from the airplane.

Actions Since AD Was Issued

Since we issued that AD, we have received new reports of under-torqued or loose fasteners after operators accomplished the terminating action required by AD 2001-15-02 (i.e., Part 6 specified in Boeing Alert Service Bulletin 747-54A2203, dated August 31, 2000). In addition, we have received a report of a crack approximately 1.5-inch in length in the bulkhead chord adjacent to an upper fastener on a number 2 strut with approximately 20,050 total flight cycles and 110,000 total flight hours. Further investigation revealed that the back-up angle inside the strut adjacent to the crack had fractured at its bend radius. The fracture initiated as a result of fatigue at multiple locations on the inner diameter of the bend radius. The cause of the loose fasteners of the hanger fittings of the bulkhead of the forward engine mount is their location in an area of high vibration and the design of the bulkhead. Loose fasteners and/or damaged or cracked hanger fittings, back-up angles, and bulkhead of the forward engine mount, if not corrected, could lead to failure of the hanger fitting and bulkhead and consequent separation of the engine from the airplane.

Relevant Service Information

We have reviewed Boeing Alert Service Bulletin 747-54A2203, Revision 1, dated August 9, 2007. The service information describes the following new procedures:

- Repetitive detailed inspections of the torque stripes and bulkhead of the forward engine mount and the adjacent support structure on the inboard and outboard struts and repetitive torque inspections (checks) of the bulkhead for cracks and/or fretting damage of the hanger fittings and bulkhead and for loose or under-torqued fasteners, as applicable; and applicable related investigative and corrective actions (i.e., Part 2 of the Accomplishment Instructions).
- Repetitive high frequency eddy current (HFEC), detailed, or fluorescent penetrant inspections of the bulkhead of the forward engine mount on the inboard and outboard struts for cracks of the bulkhead chords, evidence of a fractured internal angle, or cracks/fracture of the internal angles; as applicable (i.e., Part 8 of the Accomplishment Instructions); and detailed and HFEC inspections to detect cracks or fracture of the internal angle and stiffener (i.e., Part 7 of the Accomplishment Instructions), and applicable related investigative and corrective actions.

The related investigative actions involve doing applicable inspections described previously. The corrective actions include applying optional torque stripes; reworking, repairing, and/or replacing any discrepant part with a new part; replacing all fasteners with new fasteners; and contacting Boeing for certain conditions; as applicable.

For the inspections specified in Parts 2 and 8 of the Accomplishment Instructions, the service information specifies an initial compliance time of 90 days and repeat intervals of 6 and 18 months, depending on the inspection type. For the inspections specified in Part 7 of the Accomplishment Instructions, the service information specifies an initial compliance time of 18 months and repeat intervals of 36 months. The service bulletin specifies a compliance time of before further flight or 18 months for doing the related investigative and corrective actions, as applicable.

FAA's Determination and Requirements of This AD

The unsafe condition described previously is likely to exist or develop on other airplanes of the same type design. For this reason, we are issuing this AD to supersede AD 2001-15-02. This new AD retains the required fastener replacement, except that action no longer terminates any repetitive inspections and torque inspections (checks). This AD also requires accomplishing the actions specified in Parts 2 and 8 of the Accomplishment Instructions of the service information described previously, except as discussed under "Differences Between the AD and Service Information." This AD also provides, as an option, the inspections specified in Part 7 of the Accomplishment Instructions of the service information described previously.

Interim Action

This is considered to be interim action. We are currently considering requiring the inspections and applicable related investigative and corrective actions specified in Part 7 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2203, Revision 1. However, the planned compliance time for the inspections is sufficiently long so that notice and opportunity for prior public comment will be practicable.

Differences Between the AD and Service Information

The service information specifies to contact the manufacturer for instructions on how to repair certain conditions, but this AD requires repairing those conditions in one of the following ways:

- Using a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization whom we have authorized to make those findings.

Change to Existing AD

This AD will retain certain requirements of AD 2001-15-02. Since AD 2001-15-02 was issued, we have revised the AD format and rearranged certain paragraphs. As a result, we reidentified paragraph (c) of AD 2001-15-02 as paragraph (f) in this AD.

Boeing Commercial Airplanes has received a Delegation Option Authorization (DOA). We have revised paragraph (f) of this AD to delegate the authority to approve an alternative method of compliance for any repair required by this AD to an Authorized Representative for the Boeing Commercial Airplanes DOA rather than a Designated Engineering Representative (DER).

FAA's Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD; therefore, providing notice and opportunity for public comment before the AD is issued is impracticable, and good cause exists to make this AD effective in less than 30 days.

Comments Invited

This AD is a final rule that involves requirements that affect flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any relevant written data, views, or arguments regarding this AD. Send your comments to an address listed in the ADDRESSES section. Include "Docket No. FAA-2007-29263; Directorate Identifier 2007-NM-198-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the AD that might suggest a need to modify it.

We will post all comments we receive, without change, to <http://dms.dot.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of that web site, anyone can find and read the comments in any of our dockets, including the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78), or you may visit <http://dms.dot.gov>.

Examining the Docket

You may examine the AD docket on the Internet at <http://dms.dot.gov>, or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Operations office (telephone (800) 647-5527) is located on the ground level of the West Building at the DOT street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after the Docket Management System receives them.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The Federal Aviation Administration (FAA) amends § 39.13 by removing amendment 39-12336 (66 FR 37884, July 20, 2001) and adding the following new airworthiness directive (AD):



2007-19-19 Boeing: Docket No. FAA-2007-29263; Directorate Identifier 2007-NM-198-AD; Amendment 39-15210.

Effective Date

- (a) This AD becomes effective October 9, 2007.

Affected ADs

- (b) This AD supersedes AD 2001-15-02.

Applicability

(c) This AD applies to Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747SR, and 747SP series airplanes, certificated in any category; as identified in Boeing Alert Service Bulletin 747-54A2203, Revision 1, dated August 9, 2007.

Unsafe Condition

(d) This AD results from new reports of under-torqued or loose fasteners, a cracked bulkhead chord, and a fractured back-up angle after operators accomplished the terminating action required by the existing AD. We are issuing this AD to detect and correct loose fasteners and/or damaged or cracked hanger fittings, back-up angles, and bulkhead of the forward engine mount, which could lead to failure of the hanger fitting and bulkhead and consequent separation of the engine from the airplane.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Certain Requirement of AD 2001-15-02

(f) Within 60 months after August 24, 2001 (the effective date of AD 2001-15-02): Accomplish all actions specified in Part 6 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2203, dated August 31, 2000. Where the alert service bulletin specifies that the manufacturer may be contacted for disposition of certain corrective actions (rework or replacement of fittings), this AD requires such rework and/or replacement to be done in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO); or in accordance with data meeting the type certification basis of the airplane approved by a Boeing Company Designated Engineering Representative (DER) who has been authorized by the Manager, Seattle ACO, to make such findings. For a repair method to be approved by the Manager, Seattle ACO, as required by this paragraph, the Manager's approval letter must specifically reference this AD. As of the effective date of this AD, the

rework and/or replacement must be done using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

Note 1: Installation of two BACW10BP*APU washers on Group A fasteners accomplished during modification in accordance with Boeing Service Bulletin 747-54A2159, dated November 3, 1994, Revision 1, dated June 1, 1995, or Revision 2, dated March 14, 1996; and pin or bolt protrusion as specified in the 747 Structural Repair Manual, Chapter 51-30-02 (both referenced in Boeing Alert Service Bulletin 747-54A2203, dated August 31, 2000); is considered acceptable for compliance with the action required by paragraph (f) of this AD.

New Actions Required by This AD

Inspections and Related Investigative and Corrective Actions

(g) Except as provided by paragraphs (i) and (j) of this AD: At the applicable compliance times and repeat intervals listed in Tables 1 and 2 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-54A2203, Revision 1, dated August 9, 2007, do the inspections and applicable related investigative and corrective actions by accomplishing all the actions specified in Parts 2 and 8 of the Accomplishment Instructions of the service bulletin.

Optional Initial and Repetitive Inspections and Related Investigative and Corrective Actions

(h) Do the initial and repetitive inspections and related investigative and corrective actions by accomplishing all the actions specified in Part 7 of the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2203, Revision 1, dated August 9, 2007, except as provided by paragraph (j) of this AD.

Exceptions to Service Bulletin

(i) Where Boeing Alert Service Bulletin 747-54A2203, Revision 1, dated August 9, 2007, specifies a compliance time after the date of the service bulletin, this AD requires compliance within the specified compliance time after the effective date of this AD.

(j) Where Boeing Alert Service Bulletin 747-54A2203, Revision 1, dated August 9, 2007, specifies to contact Boeing for appropriate action, this AD requires, before further flight, repair of the discrepancy or replacement of the discrepant part using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

Alternative Methods of Compliance (AMOCs)

(k)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD, if it is approved by an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

Material Incorporated by Reference

(l) You must use Boeing Alert Service Bulletin 747-54A2203, dated August 31, 2000; and Boeing Alert Service Bulletin 747-54A2203, Revision 1, dated August 9, 2007; to perform the actions that are required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of Boeing Alert Service Bulletin 747-54A2203, Revision 1, dated August 9, 2007, in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(2) On December 6, 2000 (65 FR 69862, November 21, 2000), the Director of the Federal Register approved the incorporation by reference of Boeing Alert Service Bulletin 747-54A2203, dated August 31, 2000.

(3) Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for a copy of this service information. You may review copies at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on September 14, 2007.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E7-18541 Filed 9-20-07; 8:45 am]